

WE CLAIM:

1. A system for providing fault tolerance in a network telephony system, comprising in combination:

a receiver operable to receive a first signaling message from a first network entity via a network;

5 a transmitter operable to transmit a second signaling message to a second network entity via the network;

an address resolver operable to determine the second network entity to which the second signaling message is to be transmitted; and

10 an assembler operable to modify the first signaling message to obtain the second signaling message, wherein the assembler is operable to add a path attribute to the second signaling message, and wherein the path attribute includes at least one network address corresponding to a backup proxy server.

2. The system of Claim 1, wherein the network telephony system is an Internet Protocol (IP) telephony system.

3. The system of Claim 1, wherein the network telephony system is an (Internet Protocol) IP telephony system in which calls are signaled according to the Session Initiation Protocol (SIP) signaling protocol, and wherein the first and second signaling messages are SIP messages.

4. The system of Claim 3, wherein the path attribute includes an AlternatePath tag.

5. The system of Claim 4, wherein the AlternatePath tag is added to a header of the second signaling message.

6. The system of Claim 5, wherein the header is selected from the group consisting of a Contact header, a Record-Route header, a Route header, and a Via header.

7. The system of Claim 6, wherein the AlternatePath tag is added as an extension parameter to the header.

8. The system of Claim 1, wherein the address resolver determines the second network entity by accessing a location service.

9. The system of Claim 1, wherein the address resolver determines the second network entity by examining the first signaling message.

10. The system of Claim 1, wherein the receiver, the transmitter, the address resolver, and the assembler compose a SIP proxy server.

11. The system of Claim 1, wherein the receiver, the transmitter, the address resolver, and the assembler compose an MGCP media gateway controller.

12. The system of Claim 1, wherein the receiver, the transmitter, the address resolver, and the assembler compose an MEGACO decomposed media gateway.

~~13.~~ A backup proxy server for use with a network telephony system, wherein the backup proxy server is associated with a primary proxy server, comprising in combination:

a receiver operable to receive a first signaling message from a first network entity via a network, wherein the first signaling message includes at least one path attribute including a network address corresponding to the backup proxy server;

a transmitter operable to transmit a second signaling message to a second network entity via the network;

an address resolver operable to determine the second network entity to which the second signaling message is to be transmitted; and

an assembler operable to modify a routing attribute in the first signaling message to obtain the second signaling message.

14. The backup proxy server of Claim 13, wherein the network telephony system is an Internet Protocol (IP) telephony system.

15. The backup proxy server of Claim 13, wherein the network telephony system is an (Internet Protocol) IP telephony system in which calls are signaled according to the Session Initiation Protocol (SIP) signaling protocol, and wherein the first and second signaling messages are SIP messages.

16. The backup proxy server of Claim 15, wherein the path attribute includes an AlternatePath tag in the header of the first signaling message, and wherein the header is selected from the group consisting of a Contact header, a Record-Route header, a Route header, and a Via header.

17. The backup proxy server of Claim 15, wherein the assembler modifies the routing attribute by changing a routing header, thereby enabling at least one of the first network entity and the second network entity to route any subsequent signaling messages through the backup proxy server instead of through the primary proxy server.

~~18.~~ A method for providing fault tolerance in a network telephony system at a primary proxy server, comprising in combination:

receiving a first signaling message from a first network entity via a network;

5 determining a second network entity to which a second signaling message is to be transmitted;

inserting a path attribute in the second signaling message, wherein the path attribute includes at least one network address corresponding to a backup proxy server; and

10 transmitting the second signaling message to the second network entity via the network.

19. The method of Claim 18, wherein the network telephony system is an Internet Protocol (IP) telephony system.

20. The method of Claim 18, wherein the network telephony system is an (Internet Protocol) IP telephony system in which calls are signaled according to the Session Initiation Protocol (SIP) signaling protocol, and wherein the first and second signaling messages are SIP messages.

21. The method of Claim 20, wherein the path attribute includes an AlternatePath tag.

22. The method of Claim 21, wherein the AlternatePath tag is added to a header of the second signaling message.

23. The method of Claim 22, wherein the header is selected from the group consisting of a Contact header, a Record-Route header, a Route header, and a Via header.

24. The method of Claim 23, wherein the AlternatePath tag is added as an extension parameter to the header.

25. The method of Claim 18, wherein the second network entity is determined by accessing a location service.

26. The method of Claim 18, wherein the second network entity is determined by examining the first signaling message.

27. A computer readable medium including instructions for executing the method of Claim 18.

28. A method for providing fault tolerance in a network telephony system, comprising in combination:

receiving at a network entity a first signaling message from a primary proxy server, wherein the first signaling message includes a first network address corresponding to the primary proxy server and a second network address corresponding to a secondary proxy server;

transmitting a second signaling message to the first network address;

transmitting a third signaling message to the second network address upon receiving a transmit error after transmitting the second signaling message to the first network address.

29. The method of Claim 28, wherein the network telephony system is an Internet Protocol (IP) telephony system.

30. The method of Claim 28, wherein the network telephony system is an (Internet Protocol) IP telephony system in which calls are signaled according to the Session Initiation Protocol (SIP) signaling protocol, and wherein the first, second, and third signaling messages are SIP messages.

31. The method of Claim 28, wherein the network entity is a network telephone.

32. The method of Claim 28, wherein the network entity is a proxy server.

33. The method of Claim 28, wherein the second network address is specified in a path attribute include in the first signaling message.

34. The method of Claim 30, wherein the path attribute includes an AlternatePath tag in a header of the first signaling message.

35. The method of Claim 34, wherein the header is selected from the group consisting of a Contact header, a Record-Route header, a Route header, and a Via header.

36. The method of Claim 35, wherein the AlternatePath tag is included as an extension parameter to the header.

37. A computer readable medium including instructions for executing the method of Claim 28.

38. A method for providing fault tolerance in a network telephony system at a backup proxy server associated with a primary proxy server, comprising in combination:

receiving a first signaling message from a first network entity via a network, wherein the first signaling message includes at least one path attribute including a network address corresponding to the backup proxy server;

determining a second network entity to which a second signaling message is to be transmitted; and

modifying a routing attribute in the first signaling message to obtain the second signaling message.

transmitting the second signaling message to the second network entity via the network;

39. The method of Claim 38, wherein the network telephony system is an Internet Protocol (IP) telephony system.

40. The method of Claim 38, wherein the network telephony system is an (Internet Protocol) IP telephony system in which calls are signaled according to the Session Initiation Protocol (SIP) signaling protocol, and wherein the first and second signaling messages are SIP messages.

41. The method of Claim 40, wherein the path attribute includes an AlternatePath tag in the header of the first signaling message, and wherein the header is selected from the group consisting of a Contact header, a Record-Route header, a Route header, and a Via header.

